

REMARKS/ARGUMENTS

Reconsideration and withdrawal of the rejections of the application are respectfully requested in view of the amendments and remarks herewith, which place the application into condition for allowance. The present amendment is being made to facilitate prosecution of the application.

I. STATUS OF THE CLAIMS AND FORMAL MATTERS

Claims 1-19, 21-39, 41-59 and 61-65 are currently pending in this application. Independent claims 1, 18, 19, 21, 38, 39, 41, 58, and 59 are hereby amended in this response. Independent claims 20, 40, and 60 have been cancelled without prejudice. New independent claims 61-65 have been added. Dependent claims 2-16, 22-26, 33-36, and 42-56 have also been amended. No new matter has been introduced. Changes to claims are not made for the purpose of patentability within the meaning of 35 U.S.C. §101, §102, §103, or §112. Rather, these changes are made simply for clarification and to round out the scope of protection to which Applicants are entitled.

II. ALLOWABLE SUBJECT MATTER

In the Office Action, the Examiner indicated that claims 14, 34, 43, 44, and 53 are objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. Applicants have accordingly rewritten claims 14 (new claim 61), 34 (new claim 62), 43 (new claim 63), 44 (new claim 64), and 53 (new claim 65) in independent form to include all the

limitations of their respective base claim and any intervening claims. Allowance of claims 61-65 is therefore respectfully requested.

III. REJECTIONS UNDER 35 U.S.C. §102(e)

Claims 1-13, 17-33, 37-42, 45-52, and 56-60 were rejected under 35 U.S.C. §102(e) as allegedly being anticipated by U.S. Patent No. 6,323,905 to Kondo et al. (hereinafter, merely “Kondo”).

IV. CLAIM REJECTIONS UNDER 35 U.S.C. §101

Claims 20, 40, and 60 were rejected on the ground that these claims are directed to non-statutory subject matter. Claims 20, 40, and 60 have been cancelled without prejudice.

V. RESPONSE TO REJECTIONS

Independent claim 1 recites, *inter alia*:

“A data processing device comprising:

... an embedding unit adapted to embed a plurality of types of improvement information into the data, wherein the improvement information generating unit generates the plurality of types of improvement information for converting the data into a plurality of qualities.” (Emphasis added)

A. Units that Generate and Embed a Plurality of Types of Improvement

Information into Data Are Not Taught Or Suggested In The Prior Art

Claim 1 is patentable because the prior art used as a basis of rejection fails to disclose or suggest the generation and embedding of a plurality of types of improvement

information for converting data into a plurality of qualities. Applicants submit that the cited reference fails to teach or suggest the above identified feature of claim 1. Specifically, Kondo does not disclose or suggest “an embedding unit adapted to embed a plurality of types of improvement information into the data, wherein the improvement information generating unit generates the plurality of types of improvement information for converting the data into a plurality of qualities.”, as recited in claim 1.

In Kondo, a prediction coefficients memory 5 stores, for each class, prediction coefficients that have been determined through learning. When supplied with a class from the class code generation circuit 4, the prediction coefficients memory 5 reads out prediction coefficients that are stored at an address corresponding to the class and supplies those to the prediction operation circuit 6. Specifically, where prediction taps are constituted of m SD pixels x_1, x_2, \dots, x_m and n HD pixels y_1, y_2, \dots, y_n (in this embodiment, $m=9$ and $n=36$), the prediction coefficients memory 5 stores prediction coefficients $w_{x1}, w_{x2}, \dots, w_{xm}$ to be multiplied by the respective SD pixels x_1, x_2, \dots, x_m and prediction coefficients $w_{y1}, w_{y2}, \dots, w_{yn}$ to be multiplied by the respective HD pixels y_1, y_2, \dots, y_n . The prediction coefficients memory 5 supplies the prediction operation circuit 6 with prediction coefficients $w_{x1}, w_{x2}, \dots, w_{xm}$ and $w_{y1}, w_{y2}, \dots, w_{yn}$ that are stored at an address corresponding to the class that is supplied from the class code generation circuit 4. *Kondo, col. 9, lines 27-56.*

As described above, Kondo’s prediction coefficient generation does not disclose or suggest either “an embedding unit adapted to embed a plurality of types of improvement information into the data,” or an “improvement information generating unit” that “generates the plurality of types of improvement information for converting the data into a plurality of qualities.” as recited in claim 1.

Therefore, Applicants respectfully submit that claim 1 is patentable. For reasons similar to those described above with regard to independent claim 1, independent claims 18 and 19 are also patentable.

Independent claim 21 recites, *inter alia*:

“A data processing device ... comprising:

an extracting unit adapted to extract the plurality of types of improvement information from the embedded data; and an improving unit adapted to improve the quality of the data by using one of the plurality of types of improvement information according to a user request.” (Emphasis added)

B. Units that Extract and Improve the Quality of Data by using one of a Plurality of Types of Improvement Information Are Not Taught Or Suggested In The Prior Art

Claim 21 is patentable because the prior art used as a basis of rejection fails to disclose or suggest improving the quality of data by using one of a plurality of types of improvement information according to a user request. Applicants submit that the cited reference fails to teach or suggest the above identified feature of claim 21. Specifically, Kondo does not disclose or suggest “an extracting unit adapted to extract the plurality of types of improvement information from the embedded data,” much less “an improving unit adapted to improve the quality of the data by using one of the plurality of types of improvement information according to a user request.” as recited in claim 21.

According to Kondo, in the picture conversion apparatus and the picture conversion method, prediction taps are formed from a first picture and a picture obtained by an adaptive process. The adaptive process is executed by using the prediction taps and prediction coefficients that are adapted to the prediction taps. Therefore, a picture having better picture quality can be obtained. *Kondo, col. 17, lines 18-24.*

Kondo thus fails to disclose or suggest both “an extracting unit adapted to extract the plurality of types of improvement information from the embedded data,” and “an improving unit adapted to improve the quality of the data by using one of the plurality of types of improvement information according to a user request.”

Therefore, Applicants respectfully submit that claim 21 is patentable. For reasons similar to those described above with regard to independent claim 21, independent claims 38 and 39 are also patentable.

Independent claim 41 recites, *inter alia*:

“A data processing device comprising:

an improvement information selecting unit adapted to select improvement information to be transmitted together with the data, from the plurality of types of improvement information.”

(Emphasis added)

C. A Unit that Selects Improvement Information from a Plurality of Types of Improvement Information for Transmission with Data Is Not Taught Or Suggested In The Prior Art

Claim 41 is patentable because the prior art used as a basis of rejection fails to disclose or suggest an improvement information selecting unit that select improvement information to be transmitted together with the data from a plurality of types of improvement information. Applicants submit that the cited reference fails to teach or suggest the above identified feature of claim 41. Specifically, Kondo does not disclose or suggest “an improvement information selecting unit adapted to select improvement information to be transmitted together with the data, from the plurality of types of improvement information,” as recited in claim 41.

As previously described, Kondo's image conversion apparatus (e.g., Fig. 1) does not disclose or suggest "an improvement information selecting unit adapted to select improvement information ... from [a] plurality of types of improvement information," whereby the "select[ed] improvement information [is] transmitted together with the data."

Therefore, Applicants respectfully submit that claim 41 is patentable. For reasons similar to those described above with regard to independent claim 41, independent claims 58 and 59 are also patentable.

VI. DEPENDENT CLAIMS

The other claims are dependent from one of the independent claims discussed above, and are therefore believed patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

Similarly, because Applicants maintain that all claims are allowable for at least the reasons presented hereinabove, in the interests of brevity, this response does not comment on each and every comment made by the Examiner in the Office Action. This should not be taken as acquiescence of the substance of those comments, and Applicants reserve the right to address such comments.

CONCLUSION

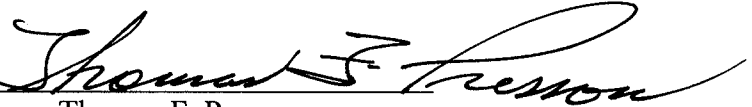
In view of the foregoing amendments and remarks, it is believed that all of the claims remaining in this application are patentable and Applicants respectfully request early passage to issue of the present application.

In the event the Examiner disagrees with any of the statements appearing above with respect to the disclosures in the cited reference or references, it is respectfully requested that the Examiner specifically indicate those portion or portions of the reference or references, providing the basis for a contrary view.

Please charge any additional fees that may be needed, and credit any overpayment, to our Deposit Account No. 50-0320.

Respectfully submitted,

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